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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,354	06/16/1999	JUNJI TAJIME	P/2054-107	5240

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EXAMINER

LEE, RICHARD J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 09/24/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/334,354

Applicant(s)

Tajime et al

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/9/03 and 7/9/03
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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1. The request filed on July 9, 2003 for a Request for Continued Examination (RCE) is acceptable and a RCE has been established. An action on the RCE follows.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-14 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohira et al of record (6,208,689).

Ohira et al discloses a method and apparatus for digital image decoding as shown in Figures 18, 19, 24, 29, 30, 49-53, and the same moving picture decoding method and apparatus as claimed in claims 1-14 and 16-18, comprising the same compressor (i.e., 107a of Figures 18 and 24, 112a of Figure 49, see 107b of Figures 29 and 30) that compresses a decoded image and stores the resulting compressed image in a memory (i.e., 103 of Figures 18 and 49); an expander (i.e., see 108, 109 of Figure 18; 113a, 114a of Figure 49) that expands a compressed image stored in the memory; a quantization controller (see Figures 18, 19, 24, 29, 30, 50-52, column 13, line 61 to column 14, line 64, column 15, line 56 to column 16, line 45, column 24, line 37 to column 25, line 12) that controls how quantization is performed in the compressor; a memory access width controller (i.e., as provided by compression rate judging section 106 of Figure 18 since compression rate judging section 106 provides the rate of compression in connection with the

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storage capacity, i.e. number of bits of the memory 103, and bit allocation control to the quantization controller is being provided within 107a of Figures 18, 24, 107b of Figures 29, 39, and 112a of Figures 49 and 50, see Figures 18, 24, 29, 30, 49-52, column 13, lines 16-44, column 14, lines 3-64, column 17, line 33 to column 19, line 13) that controls the quantization controller such that bit allocation is controlled in relation to the number of bits of a memory access unit of the memory, the memory access width controller controls the quantization controller such that a number of coded bits of the image processed in the compressor for every control unit of compression processing is in conformity with the number of bits of the memory access unit of the memory in the case that the coded number of bits exceeds the number of bits of the memory access unit of the memory, the memory access width controller conducts control using information included in the compressed stream, the memory access width controller applies control to the quantization controller such that when an allocated number of bits of coded data of a compression block exceeds the number of bits of the memory access unit of the memory or is less than the number of bits of the memory access unit of the memory, the allocated number of bits is made equal to or less than the number of bits of the memory access unit of the memory by subtracting a predetermined number of bits from the allocated bits of coded data of the compression processing block or by increasing the number of allocated bits by the predetermined number of bits, whereby the coded data is enabled to be extracted from the memory with one access occurrence (i.e., data in the compressing section 107a of Figure 18 are compressed based upon the compression rate information 157 from the compression rate judging section 106, the

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compression rate judging section selects a compression mode from among a plurality of compression modes based upon the rate of compression, thereby providing the increase/decrease in the number of bits allocated and providing the rate of compression in connection with the memory, i.e. number of bits, of the memory 103, and bit allocation control to the quantization controller is being provided within 107a of Figures 18, 24, 107b of Figures 29, 39, and 112a of Figures 49 and 50, and see column 13, lines 16-44, column 14, lines 3-64, column 17, line 33 to column 19, line 13); the quantization controller controls quantization performed by the compressor based on access width information from the memory access width controller such that a number of bits processed in the compressor for every control unit of compression processing is equal to or less than the number of bits of the memory access unit of the memory in the case that the number of bits for every control unit of compression processing exceeds the number of bits of memory access unit of the memory (i.e., compression rate judging section 106 provides the rate of compression in connection with the storage capacity, i.e. number of bits of the memory 103, and the compressing section 107a or 107b which includes quantization control based on access width information compresses the data based upon the compressed rate information provided by compression rate judging section, see Figures 18, 24, 29, 30, 49-52, column 13, lines 16-44, column 14, lines 3-64, column 17, line 33 to column 19, line 13); wherein the compressor and the expander conduct compression and expansion, respectively, in accordance with a pixel difference prediction encoding system (see 107a of Figure 24, 107b of Figures 29 and 30, column 4); wherein the quantization controller (see 107b of Figures 29 and 30, 703a of Figures 50 and 51)

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controls quantization by preparing a plurality of quantizers (i.e., 121a-d of Figures 29 and 30; 703a of Figure 51) having quantization characteristics different from each other and a plurality of quantization characteristic tables, a quantization characteristic table (see 700 of Figure 50) being shared by the plurality of quantizers; wherein the compressor and expander conduct compression and expansion, respectively, in accordance with an orthogonal translation encoding system (see column 4, column 9, lines 1-13); the compressor controls quantization characteristics used for quantizing the decoded image, based on control by the quantization controller (see Figures 29, 30, 50, 51); detecting a number of coded bits for every control unit of compression processing (i.e., 107a of Figures 18 and 24), and controlling the number of coded bits so that the number of coded bits is in conformity with the number of bits of a memory access unit of a memory (i.e., 103 of Figure 18) when the detected number of coded bits exceeds the number of bits of a memory access unit of the memory, wherein the step of controlling uses information from an external compressed data stream (see column 13, lines 16-44, column 13, line 61 to column 14, line 64, and 106 of Figure 18).

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohira et al as applied to claims 1-14 and 16-18 in the above paragraph (3), and further in view of Nakajima et al of record (6,243,421).

Ohira et al discloses substantially the same moving picture decoding method and apparatus as above, but does not particularly disclose the compressor comprising a subtracter, a quantizer, an encoder, an inverse quantizer, an adder and a predictor, a prediction error obtained in the

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subtractor by subtraction operation between the decoded image and a predicted value from the predictor is supplied to the quantizer, under control of the quantization controller, the quantizer quantizes the prediction error and supplies the quantized result to the encoder and the inverse quantizer, the encoder encodes an output from the quantizer and outputs the encoded result to the memory, and inverse quantizer and local decoding are conducted in the inverse quantization, the adder and the predictor, as claimed in claim 15. However, Nakajima et al discloses an apparatus for decoding coded video data with reduced memory size as shown in Figures 2 and 3, and teaches the conventional compression means comprising a subtracter (20 of Figure 3), a quantizer (21 of Figure 3), an encoder (22 of Figure 3), an inverse quantizer (25 of Figure 3), an adder (23 of Figure 3) and a predictor (24 of Figure 3), a prediction error (i.e., output of 20 of Figure 3) obtained in the subtracter by subtraction operation between the decoded image and a predicted value from the predictor is supplied to the quantizer, under control of the quantization controller, the quantizer (i.e., 21 of Figure 3) quantizes the prediction error and supplies the quantized result to the encoder (22 of Figure 3) and the inverse quantizer (25 of Figure 3), the encoder encodes an output from the quantizer and outputs the encoded result to the memory (i.e., 6 of Figure 2), and inverse quantization and local decoding are constructed in the inverse quantization, the adder, and the predictor (see Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art, having the Ohira et al and Nakajima et al references in front of him/her and the general knowledge of video compression systems, would have had no difficulty in providing the compression means as shown in Figure 3 of Nakajima et al including all the components as

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claimed in place of the compression system 107a of Figure 18 of Ohira et al for the same well known video compression with quantization control purposes as claimed.

5. Regarding the applicants' arguments at pages 9-10 of the amendment filed June 9, 2003 concerning in general that "... The claims are distinguished from conventional compression systems in that, as the specification of the present application makes clear, conventional system do not take the number of bits in a memory access unit into account when performing bit allocation control ... Ohira clearly discloses selection of a compression mode (i.e., execution of bit allocation control) based on the compression ratio between the size of the image as compared with the storage capacity of the frame memory itself. Nothing in Ohira discloses or suggests that bit allocation control is performed based on the number of bits of a memory access unit as required by each of the claims of the present application ... ", the Examiner respectfully disagrees. The applicants' attention are directed again to column 13, lines 26-32 of Ohira et al wherein Ohira et al teaches that the "compression rate judging section 106 judges a rate of the decoded data 151 to be compressed and stored in the frame memory based upon the size of the image in connection with the storage capacity of the frame memory. The compression rate judging section 106 selects a compression mode from among a plurality of compression modes based upon the rate of compression." and to column 14, lines 8-28 of Ohira et al for teachings of the compression rate judging section providing the rate of compression in connection with the storage capacity of the frame memory 103, with the expression $T \times U \times r/lm \leq Z$, with Z being the number of bits within memory 103 and lm being the rate of compression. From these passages of Ohira, it is evident

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that by selecting a compression mode from among a plurality of compression modes based upon the rate of compression, which rate of compression is based in connection with the number of bits within memory 103, the compression rate judging section of Ohira et al thereby provides the same bit allocation control in relation to the number of bits of a memory access unit of the memory as claimed.

Regarding the applicants' arguments at pages 11-12 of the amendment filed June 9, 2003 concerning in general that "... While the Office Action indicates that "some sort of accessing means must inherently be included within memory 103 in order to handle the data," this statement merely begs the essential question. Even it were correct to say that a memory access unit is inherently included within a memory, it does not necessarily follow that performing bit allocation control based on the number of bits of a memory access unit is inherent in Ohira simply because Ohira discloses a frame memory ...", it is again submitted that memory access unit is inherently included within the memory, or else it would not be possible to accessed the data within memory 103 of Ohira. And regarding the applicants' arguments concerning bit rate control based on the number of bits of a memory access unit, Ohira clearly teaches such claimed limitation as addressed in the above paragraph.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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or faxed to:

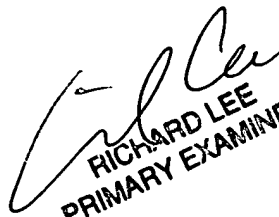
(703) 872-9314, (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

9/17/03